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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/529,784	06/23/2000	Otto Hofstetter	24140	3739

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EXAMINER
SHIPSIDES, GEOFFREY P

ART UNIT	PAPER NUMBER
1732	

DATE MAILED: 08/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/529,784	Applicant(s) HOFSTETTER ET AL.	
	Examiner Geoffrey P. Shipsides	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-25* is/are pending in the application.

4a) Of the above claim(s) *19-22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-18 and 23-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 15 and 16 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 15 (as amended in paper #15) teaches the production of a three-layered preform (lines 27-28 of claim 15) in a process where C is first conveyed while not conveying the filler component B, then the simultaneous conveying of the component C, wherein C amounts to 5% or less of the overall volume. The specification does not teach how such a process could be preformed such that C would amount to 5% or less of the overall volume. The original specification does teach processes where an outer material is first injected that forms 5% or less of the overall volume and thus does not enable such a process. It is clear from the specification that the first material injected would inherently form the outer layer of a formed preform. The specification does teach a process where an outer layer material is first injected followed by the above process, but such a process would inherently form a five-layered preform (not a three layered

preform as claimed). Claim 16 is dependent upon claim 15. Appropriate corrective action is required.

Claims 15, 16, 20, and 21 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 15 (as amended in paper #15) teaches the production of a three-layered preform (lines 27-28 of claim 15) in a process where C is first conveyed while not conveying the filler component B, then the simultaneous conveying of the component C, wherein C amounts to 5% or less of the overall volume. The original specification does not teach how such a process could be preformed such that C would amount to 5% or less of the overall volume. It is clear from the specification that the first material injected would inherently form the outer layer of a formed preform. The specification does teach a process where an outer layer material is first injected followed by the above process, but such a process would inherently form a five-layered preform (not a three layered preform as claimed). Claim 16 is dependent upon claim 15. Removal of this new matter is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,990,301 (Krishnakumar et al. 1) in view of U.S. Patent No. 6,187,241 B1 (Swenson).

With regard to claim 13, Krishnakumar et al. 1 teaches a variety of methods for forming multilayered preforms (Figures) where different materials are fed through different concentric injection nozzles into a mold cavity wherein different sequences of injecting single and multiple materials at once into the mold cavity result in different configurations of the multilayered preform. Krishnakumar et al. 1 uses a multicomponent injection-molding tool that features hot runner nozzles and a needle shut-off mechanism (Figure 1, Column 1, lines 18-23). Krishnakumar et al. 1 teaches that: "there are four flow passages. However, the number may be more or less as so desired." (Column 2, line 42-44). Krishnakumar et al. 1 teaches that the "gates 32, 36,40, 44 are selectively closed in sequence by a gate pin 46 which is positioned by means of a positioning devide [sic] 48 which is automatically controlled." (Column 2, lines 65-68). It is clear from the figures of Krishnakumar et al. that in order to allow the material from the inner most nozzle, that the pin must be in a position where all of the flow gates are opened, but in many of the methods of Krishnakumar et al., only the material going through the inner most nozzle is conveyed (Figures), therefore it is intrinsic that in the methods of Krishnakumar et al. where only the material from the

inner most nozzle (inner most jet chamber) is conveyed that the pin is in a position where all of the jet chambers are opened, but only the inner most jet chamber conveyed. Krishnakumar et al. 1 teaches several embodiments where the surface forming material (PET) is injected through the center nozzle and where the surface forming material (PET) is first injected singly followed by the injection of secondary materials through more outward nozzles to form core forming materials either with or without the PET through the central nozzle continued to be injected (Figures 2A, 2B, 5A, 5B, 8A, 8B, 9A, 9B, 10A, 10B, 11A, 11B, 12A, 12B).

It is further the examiner's position that as soon as the material enters the molding cavity that the material starts to cool, that thus an intrinsic cooling stage starts as soon as the material of Krishnakumar et al. starts to enter the molding cavity. And thus material that enters the molding cavity at the later stages of the molding processes as taught by Krishnakumar et al. would intrinsically fill up the space created by the shrinking of cooled material. It is further the position of the examiner that any of the central (core) forming materials of Krishnakumar et al. do constitute filler materials and thus constitute component B (singly or in combination). Krishnakumar et al. teaches the injection of regrade material into the molding cavity as a core component (Figures 8 (a) and (b)). It is notoriously well known in the art of molding to try to maximize the total amount of regrade (or recycled) materials used in article forming processes in order to reduce material costs. It would have been obvious to one having ordinary skill in the art at the time of invention to maximize the amount of the core materials (component B) in the case where regrade material is being used as the core material in order to reduce

the material cost of producing a preform by the method as taught by Krishnakumar et al. and it would have been obvious to produce preforms with greater than 35% of core materials.

Krishnakumar et al. does not specifically teach the viscosities of the different injected materials. Swenson, however, teaches that increasing the core viscosity will increase the core volume relative to a decreased outer layer volume if that is a desired property of the molded part (Column 6, lines 39-43). It would have been obvious to one having ordinary skill in the art at the time of invention to modify the process of Krishnakumar et al. by manipulating the viscosities of the different materials in order to arrive at the desired layer volumes in the finished preform, and it the process of trying to maximize the amount of regrade material in a preform, it would have been obvious to use a regrade material with a higher viscosity than the outer layer material.

With regard to claim 14, it is clear form the apparatus of Krishnakumar et al. that in order to shut off the conveyance of the outer layer material that most convenient method of doing so would be to move the shut off needle to a position where the inner most jet chamber is closed. Krishnakumar et al. further teaches methods where the conveyance of the outer layer material is shut off during the injection of core materials (component B) (Figures 12 (a) and (b)).

5. Claims 17, 18, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,990,301 (Krishnakumar et al.).

The example of Figures 10A and 10B of Krishnakumar et al. depicts the production of a five layered preform where a skin, a filler layer, and a barrier layer are all

fabricated. Krishnakumar et al. uses a multicomponent injection-molding tool that features hot runner nozzles and a needle shut-off mechanism (Figure 1, Column 1, lines 18-23). Krishnakumar et al. teaches that: "there are four flow passages. However, the number may be more or less as so desired." (Column 2, line 42-44). Krishnakumar et al. teaches that the "gates 32, 36,40, 44 are selectively closed in sequence by a gate pin 46 which is positioned by means of a positioning devide [sic] 48 which is automatically controlled." (Column 2, lines 65-68). It is clear from the figures of Krishnakumar et al. that in order to allow the material from the inner most nozzle, that the shut off pin must be in a position where all of the flow gates are opened, but in many of the methods of Krishnakumar et al., only the material going through the inner most nozzle is conveyed (Figures), therefore it is intrinsic that in the methods of Krishnakumar et al. where only the material from the inner most nozzle (inner most jet chamber) is conveyed that the pin is in a position where all of the jet chambers are opened, but only the inner most jet chamber conveyed. Krishnakumar et al. teaches the conveyance of only the outer layer material (A) in a first step in the method depicted in Figures 10A and 10B, followed by a step of conveying the other materials (B and C) at the same time and not conveying the outer layer material (A).

It is further the examiner's position that as soon as the material enters the molding cavity that the material starts to cool, that thus an intrinsic cooling stage starts as soon as the material of Krishnakumar et al. starts to enter the molding cavity. And thus material that enters the molding cavity at the later stages of the molding processes as taught by Krishnakumar et al. would intrinsically fill up the space created by the

shrinking of cooled material. Figures 10A and 10B depict the halting of the conveyance of C and the continued conveyance of B with would intrinsically fill the void left by the cooling of the material in the mold cavity.

Krishnakumar et al., however, does not teach that the outer layer material in this example is conveyed through the outermost jet chamber. It is, however, clear from the teachings of Krishnakumar et al. that the outer layer material may be conveyed through the outer most chamber (Figures 3A and 3B) in the production of preforms with a lower amount of EVOH (barrier material). It is well known in the art that EVOH is more expensive than PET. It would have been obvious to one having ordinary skill in the art at the time of invention to modify the process of Figures 10A and 10B of Krishnakumar et al. to rearrange the jet chamber arrangement to convey the outer layer material through the outer most jet chamber and the barrier layer through the inner most chamber in order to reduce the amount of barrier material in the formed preform in order to reduce material costs.

With regard to claim 18, it is well known that EVOH (component C) is more expensive than PET and that PET regrade (component B) is less expensive than PET (component A). It would have been obvious to one having ordinary skill in the art at the time of invention to maximize the amount of PET regrade and minimize the amount of EVOH in the finished preform in order to reduce material costs. It would have been obvious to one having ordinary skill in the art at the time of invention to determine through routine experimentation the maximum amount of PET regrade and the minimum amount of EVOH that would produce a satisfactory preform. It is the

examiner's position that minus the showing of unexpected results that one having ordinary skill in the art at the time of invention would have found that these optimal amounts of PET regrade and EVOH to be in the claimed ranges.

With regard to claim 23, EVOH is commonly known as nylon.

With regard to claim 24, regrade material is also commonly known as recycled material.

With regard to claim 25, the conveyance of inner material in Figures 10A and 10B of Krishnakumar et al. are conveyed in a tube like structure where the EVOH material lies inside of the PET regrade material.

Response to Arguments

6. Applicant's arguments with respect to claims 13-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey P. Shipsides whose telephone number is 703-306-0311. The examiner can normally be reached on Monday - Friday 9 AM till 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on 703-305-5493. The fax phone

numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Geoffrey P. Shipsides/gps
August 10, 2003

MICHAEL COLAIANNI
PRIMARY EXAMINER